Appendix E – Green Sheets

US Highway 53 Virginia to Eveleth

Mitigation Green Sheets

Environmental Impact Statement SP 6918-80

The list below presents the commitments to be carried out by the project proposers to offset or minimize impacts, comply with agency requests, or complete agreements made during agency coordination during the National Environmental Protection Act (NEPA) process. The resources are presented in the order they are addressed in the Final Environmental Impact Statement (EIS). The commitments referenced in this document (starting on page 4) pertain to the specific obligations agreed upon for this action during the pre-design/NEPA phases of the project development process. The intention of this Green Sheet list and the accompanying chain of custody on page 3 is to provide a mechanism for tracking transfer and completion of project commitments from the NEPA process through final design and permitting, development of plans and specifications, construction, and, if applicable, post-construction/maintenance.

The NEPA commitments are listed in this document and include information on when it is anticipated that they would be implemented (i.e., which phase of construction). However, this is a living document, and as additional information on how the project will be designed, bid, and constructed is decided, some of the implementation assumptions may change. Also, additional (non-routine) commitments may be added as a result of permit conditions, etc. As changes or additions are made during future stages of project development, they must be tracked by the MnDOT Project Manager in a way that completion of the original NEPA commitments can be tracked and documented.

Throughout the future project development stages, the chain of custody table will be used to track transfer of responsibility for ensuring commitments are being conveyed and implemented. Also, as commitments are completed, the date of completion and the party/person documenting completion of the commitment should be noted – see the columns provided for status, completion date, and sign off in the table starting on page 4.

NOTE: Measures that will be taken in accordance with standard construction specifications or as part of various routine permit requirements are listed in a separate table at the end of this document since they require less detailed description and tracking than project-specific commitments.

NOTE: If a contractor chooses to pursue temporary easements for staging areas that are not identified in the Final EIS, standard erosion control and site management best management practices (BMPs) will also apply to those areas.

Project Description

The Draft EIS identified Alternative E-2 as the preferred alternative based on its ability to meet the project Purpose and Need and minimize impacts to social, economic, and environmental resources, and on the basis of a number of technical and cost considerations, as described below.

As identified in the Draft EIS, the Interchange Option was selected for the preferred alternative over the Intersection Option. These options have similar social and environmental impacts; however, the Interchange Option would maintain the current access provided at US 53 and MN 135 and would provide safer approach grades from the east (two percent compared to six percent with an intersection), resulting in less potential semi-truck/vehicle conflict. This reduction in grade would also reduce the earthwork and rock cut quantities required for construction.

After publication of the Draft EIS, the Straight Option was selected (over the Curved Setback Option) as part of the preferred alternative based on public and agency comment, refinement of the design, and less environmental impact.

Benefits of the preferred alternative include:

- Mineral Rights: Avoids the permit to mine/environmental setting boundary
- Business Risks: Has no risk for air quality compliance to impact mine operations
- Water Supply: Avoids the major dewatering that would be required for the Alternative E-1 RSS Option
- Wetlands: Has fewer wetland impacts than Alternative E-1A and Alternative M-1
- Noise: A noise wall is preliminarily cost effective at affected residential locations
- Right-of-Way: Impacts the fewest number of parcels of any Build Alternative
- Engineering and Constructability Considerations:
    - Shorter bridge than the Alternative E-1A Bridge Option
    - Only two pier foundations required, compared to up to eight for the Alternative E-1A Bridge Option
    - Less work required to construct in the water/ice of the Rouchleau Pit
    - Avoids 40 mph curve needed for Alternative E-1A
    - Has a better sight distance northbound from the bridge to the 2nd Avenue traffic signal than Alternative E-1A
    - Piers to be constructed in less than 30 feet of mine waste fill as compared to Alternative E-1A that would have up to 100 feet of mine waste fill
- Schedule: Has the least schedule risk due to engineering constructability considerations noted above as well as considerations related to owner and operator property interests
- Cost: Costs significantly less than the Existing US 53 Alternative and Alternative M-1, and the upper range of the cost estimate is less than that for either the Alternative E-1A RSS Option or Bridge Option

Construction for the project is to be divided into three work packages. Work package one (WP1) includes early steel acquisition, work package two (WP2) includes all bridge related construction over the Rouchleau Pit, and work package three (WP3) includes all other construction activities (i.e., roadway, utilities, interchange, and trail). Mitigation measures identified in the following tables will not apply to WP1 since it does not include any on-site activities but may apply to WP2 and WP3, as noted in the tables.

Chain of Custody

Action	Name	Date	Expectation
Prepared by:			To the best of my knowledge all commitments made in environmental documents and public discussions have been captured here
Received in Detail Design by:			Commitments documented here will be honored or renegotiated
Updated in Detail Design by:			To the best of my knowledge all commitments specified in the Green Sheets have been incorporated into the plans or renegotiated and any new commitments have been added
Received in Construction by:			Commitments documented here will be honored or renegotiated
Completed in Construction:			To the best of my knowledge all commitments specified in the Green Sheets have been constructed or renegotiated and any new commitments have been added
Received Post-Construction:			Commitments documented here will be honored or renegotiated
Completed Post-Construction:			All commitments have been fulfilled or renegotiated

Plan Review

Stage	Agencies	Status Update	Date	Completion Date	Completion Signed Off By
Design					
Construction					
Post-Construction					
No Further Work Required					

Standard Mitigation Measures

Mitigation Measure	MnDOT Specification Number	WP1[1]	WP2[2]	WP3[3]	Status Update Description	Status Update Date	Completion Date	Signed Off By
Economics and Business								
Manage traffic control to minimize business impacts during construction	2563	N/A	X	X				
Utilities								
Provide early notice to utility operators and facilitate coordination	2545	N/A	X	X				
Water Supply/Water Body Modification								
Standard erosion control/construction BMPs	2573	N/A	X	X				
Turbidity controls during construction	2573	N/A	X	X				
Stormwater conveyance/treatment and spill containment provisions	2503	N/A	X	X				
Surface Water/Water Quality and Quantity								
Comply with NPDES permit for construction activity throughout construction	2573	N/A	X	X				
Noise								
Follow standard MnDOT construction noise practices	2422	N/A	X	X				
Vegetation and Cover Types								
Revegetation and stabilization of disturbed areas	2575	N/A	X	X				
Air Quality								
Implement dust control BMPs such as watering	2013	N/A	X	X				
Hazardous and Regulated Materials								
Handle regulated materials/wastes per management plan, Response Action Plan, demolition plan, and MnDOT Guidance documents	2013	N/A	X	X				
Follow standard BMPs for handling taconite-containing materials and spills	2013	N/A	X	X				
Excess Materials								
Dispose of excess material per approved disposal plan	2013, 2105	N/A	X	X				

[1] Work Package 1 (WP1) includes early steel acquisition

[2] Work Package 2 (WP2) includes all bridge related construction over Rouchleau Pit

[3] Work Package 3 (WP3) includes all other construction activities including roads, utilities, interchange, and trail

Project Specific Mitigation

Mitigation Measure	WP1[1]	WP2[2]	WP3[3]	Status Update Description	Status Update Date	Completion Date	Signed Off By
Water Supply/Water Body Modification							
Specify the source and nature of any fill material used (e.g., use of clean fill, prohibiting the use of taconite tailings as fill within the Rouchleau Pit)	N/A	X	X				
Follow additional BMPs to prevent any potential transfers of aquatic invasive species (AIS) into the water (e.g., having any equipment or material used for dewatering or construction exposed to dry conditions for at least five days before coming into contact with the waterbody)	N/A	X	X				
Follow mitigation measures in DNR water appropriation permit	N/A	X	X				
Wetlands							
Withdraw 9.96 acres of wetland replacement credit from account #1595 to cover wetland impacts regulated by USACE and under WCA	N/A	X	X				
Follow conditions set forth in wetland permits issued by USACE and WCA LGU	N/A	X	X				
Surface Water/Water Quality and Quantity							
Follow SWPPP BMPs addressing barge use during construction	N/A	X					
Follow BMPs for control of weeds and invasive species near sensitive areas	N/A		X				
Fish and Wildlife/Threatened and Endangered Species							
If peregrine falcons are observed during construction, contact the MnDOT biologist for coordination	N/A	X	X				
Conduct tree removal between October and April; no tree removal between April and October	N/A	X	X				
Excess Materials							
Review fill placed within the Rouchleau Pit with MPCA	N/A	X	X				
Specify the source and nature of any fill material used (e.g., use of clean fill, prohibiting the use of taconite tailings as fill within the Rouchleau Pit)	N/A	X	X				
Geotechnical and Earthborne Vibrations							
Monitor vibration	N/A	X	X				
Schedule blasting for minimal disruption	N/A	X	X				
Special design would be required for bridge stability	N/A	X					
Implement BMPs to protect road infrastructure	N/A	X	X				

[1] Work Package 1 (WP1) includes early steel acquisition
[2] Work Package 2 (WP2) includes all bridge related construction over Rouchleau Pit
[3] Work Package 3 (WP3) includes all other construction activities including roads, utilities, interchange, and trail